What is claimed is:

1. A hammering device comprising a head and a shank extending from the head, the head having an impact surface adapted to contact an object, the shank terminating opposite the head in an end and comprising a grasping region, the hammering device having a center of percussion, and wherein the hammering device is adapted to being grasped within the grasping region such that the center of percussion substantially coincides with the impact surface of the head during use.

2. The hammering device of claim 1, wherein the shank further comprises a longitudinal axis, and wherein the impact surface further comprises an impact point substantially centrally disposed on the impact surface, and further comprising an actual pivot point on the shank, a center of mass, a radius of gyration, a distance d, and a distance k, the actual pivot point being located within the grasping region, the shank being adapted to substantially rotate, in the plane of motion of the impact instrument during use, about the actual pivot point during use, the distance d extending from the impact point to the actual pivot point and being measured along the longitudinal axis of the shank, the distance k extending from the actual pivot point to the radius of gyration and being measured along the longitudinal axis of the shank, and wherein the distance d differs from the ratio $\frac{k^2}{h}$ by less than about 15%.

3. The hammering device of claim 1 wherein the grasping region is adjacent to the end.

4. The hammering device of claim 1 wherein a portion of the shank widens along a direction towards the end, and wherein the grasping region is located proximate the widened portion of the shank.

5. The hammering device of claim 1 wherein the impact surface comprises an impact point substantially in or near the center of the impact surface, and wherein the hammering device is

adapted to being grasped within the grasping region such that the center of percussion substantially coincides with the impact point during use.

6. The hammering device of claim 1 wherein the head further comprises a top, a bottom, and a front portion, the impact surface extending from the front portion, the front portion having a top edge proximate the top of the head and a bottom edge proximate the bottom of the head, and wherein the top and bottom edges each have a length, the length of the top edge being greater than about twice the length of the bottom edge.

7. The hammering device of claim 1 wherein the head and the shank comprise metal.

8. The hammering device of claim 1 wherein the hammering device has a mass between about 1 pound and about 2.5 pounds.

9. The hammering device of claim 1 wherein the hammering device has a mass of at least about 2 pounds.

10. The hammering device of claim 1 wherein the shank comprises graphite and wherein the hammering device has a mass between about 1.5 pounds and about 2.5 pounds.

11. The hammering device of claim 1 wherein the shank comprises fiberglass and wherein the hammering device has a mass between about 1.5 pounds and about 2.5 pounds.

12. The hammering device of claim 1 wherein shank further comprises a longitudinal axis, and wherein the end is spaced from the head by a distance measured along the longitudinal axis of no more than about 13 inches.

13. The hammering device of claim 1 wherein the head further comprises a claw for pulling nails, the claw extending from the head in a direction opposite the impact surface and being curved in a direction toward the end.

14. The hammering device of claim 1 wherein the grasping region further comprises an indention to facilitate grasping of the shank.

15. The hammering device of claim 1 wherein the mass of the device is distributed throughout the hammering device such that the center of percussion of the hammering device coincides with the impact surface of the hammering device during use.

16. A hammering device, comprising:

a head having an impact surface;

a shank extending from the head and comprising a longitudinal axis;

a grasping member substantially surrounding at least a portion of the shank, and wherein at least one cavity is between the grasping member and the shank, wherein the grasping member engages the shank at a location, and the grasping member is adapted to pivot with respect to the longitudinal axis of the shank during use.

17. The hammering device of claim 16 wherein the hammer is adapted to deliver an impulse from the impact surface to an object during use, and wherein the pivoting of the grasping member increases the delivered impulse during use.

18. The hammering device of claim 16 wherein the cavity comprises a compressible material.

19. The hammering device of claim 16 wherein the cavity comprises a compressible material adapted to dampen vibrations through the hammering device during use.

20. The hammering device of claim 16 wherein the pivoting of the grasping member is adapted to occur in the region of an ideal pivot point of the device during use.

21. The hammering device of claim 16 wherein the grasping member contacts the shank proximate an ideal pivot point of the device during use.

22. The hammering device of claim 16 wherein the pivoting of the sheath reduces counter-rotational forces imparted from the hammering device during use.

23. The hammering device of claim 16, further comprising a substantially rigid, non-pivoting butt located at the end of the shank.

24. The hammering device of claim 16 wherein the grasping member further comprises an upper end, and wherein an elastic material is disposed over the upper end and disposed over a portion of the shank proximate the upper end.

25. The hammering device of claim 16, further comprising an ideal pivot point, and wherein the shank comprises an end less than about an inch from the ideal pivot point.

26. The hammering device of claim 16 wherein the hammering device is adapted to deliver an impulse at the impact surface during use, and wherein the grasping member is pivotable to increase the delivered impulse, and wherein a compressible material in the cavity dampens vibrations through the hammering device during use.

27. The hammering device of claim 16 wherein the grasping member further comprises a grasping member axis that is substantially parallel to the longitudinal axis, and wherein the pivoting of the grasping member forms an angle between the grasping member axis and the longitudinal axis that is less than about 5 degrees during use.

28. The hammering device of claim 16 wherein the grasping member further comprises a grasping member axis that is substantially parallel to the longitudinal axis, and wherein the

pivoting of the grasping member forms an angle between the grasping member axis and the longitudinal axis that is less than about 1 degree during use.

29. The hammering device of claim 16, wherein the cavity is an annular cavity, and further comprising an inner member disposed between grasping member and the shank, the inner member substantially surrounding the shank to form the annular cavity between the inner member and the grasping member.

30. The hammering device of claim 16 wherein the hammering device has a center of percussion that substantially coincides with the impact surface when the hammering device is grasped on the grasping member during use.

31. The hammering device of claim 16, further comprising an ideal pivot point, the ideal pivot point being at a distance greater than about 10 inches from the impact surface, the distance being measured along the longitudinal axis of the shank.

32. The hammering device of claim 16 wherein the hammering device has a weight of less than about 3 pounds, and wherein the device comprises an ideal pivot point, the ideal pivot point being at a distance greater than about 10 inches from the impact surface, the distance being measured along the axis of the shank.

33. The hammering device of claim 16 wherein the device comprises an ideal pivot point, the ideal pivot point being at a distance greater than about 10 inches from the impact surface, the distance being measured along the axis of the shank, and wherein the pivoting of the sheath about the ideal pivot point allows an increase of more than about 10-20% in impulse transfer delivered by the hammering device during use.

34. The hammering device of claim 16 wherein the device comprises an ideal pivot point, and wherein the grasping member rigidly contacts the shank solely in the region of the ideal pivot point.

35. The hammering device of claim 16 wherein the device comprises an ideal pivot point, and wherein the grasping member engages the shank at the ideal pivot point, and wherein the grasping member further comprises an upper end and a lower end, and wherein the grasping member is disposed over the ideal pivot point such that the ideal pivot point lies substantially midway between the upper end and the lower end.

36. The hammering device of claim 16 wherein the device comprises an ideal pivot point, and wherein the grasping member engages the shank at the ideal pivot point, and wherein the grasping member further comprises an upper end closer to the impact surface than a lower end, and wherein the grasping member is disposed over the ideal pivot point such that the ideal pivot point lies closer to the upper end than the lower end.

37. The hammering device of claim 16 wherein the device comprises an ideal pivot point, and wherein substantially incompressible material is disposed between the shank and the grasping member proximate the ideal pivot point.

38. The hammering device of claim 16 wherein the device comprises an ideal pivot point, and wherein the cavity formed between the grasping member and the shank has a minimum thickness at the ideal pivot point and an increasing thickness in a direction away from the ideal pivot point.

39. The hammering device of claim 16 wherein the device comprises an ideal pivot point, and wherein the cavity has a thickness that varies along the axis of the shaft.

40. The hammering device of claim 16 wherein the device comprises an ideal pivot point, and wherein the cavity has a thickness that varies along the axis of the shaft as a function of a magnitude of reaction force in the shaft due to the impact during use.

41. The hammering device of claim 16 wherein the device comprises an ideal pivot point, the ideal pivot point being at a distance greater than about 10 inches from the impact surface, the

distance being measured along the axis of the shank, and wherein the pivoting of the grasping member allows an increase of more than about 10% in a peak force delivered by the hammering device, and wherein the compressible material reduces vibrating forces through the grasping member by at least about 80%.

42. The hammering device of claim 16 wherein a sheath surrounds a lower portion of the shank, and wherein the shank further comprises a front and a side, and wherein the sheath further comprises a sheath axis that is substantially parallel to the longitudinal axis, and wherein the sheath is adapted to pivot about the front of the shank to form an first angle between the sheath axis and the front of the shank, the first angle being between about 1 degree and about 5 degrees, and wherein the sheath is adapted to pivot about the side of the shank to form a second angle between the sheath axis and the side of the shank, the second angle being between about 1 degree and about 5 degrees.

43. The hammering device of claim 16 wherein the shank compresses compressible material during the pivoting of the grasping member during use.

44. A impact instrument for delivering an impulse to an object, comprising

an impact surface adapted to contact the object;

an elongated member extending from the impact surface, the elongated member comprising a longitudinal axis and terminating in an end;

an ideal pivot point located on the elongated member;

a handle disposed over a portion of the elongated member, the handle comprising a handle axis substantially parallel to the longitudinal axis;

and wherein the handle is adapted to pivot about the ideal pivot point when the impulse is delivered such that an angle is formed between the handle axis and the longitudinal axis.

45. The instrument of claim 44 wherein the angle is greater than about 0° and less than about 10°.

46. The instrument of claim 44 wherein the angle has a vertex at the ideal pivot point.

47. A hammering device comprising:

a head comprising an impact surface adapted to contact an object;

a shank extending from the head, the shank terminating opposite the head in an end, and comprising an ideal pivot point and a grasping region in the vicinity of the end;

a center of percussion;

a sheath substantially surrounding a portion of the shank to form a cavity therebetween;

compressible material disposed within the cavity;

and wherein the hammering device is adapted such that, when grasped anywhere within the grasping region during use, the center of percussion substantially coincides with the impact surface, and wherein the sheath is adapted to pivot about the ideal pivot point during use.

48. A impact instrument for delivering an impulse to an object, comprising

an impact surface adapted to contact the object;

an elongated member extending from the impact surface, the elongated member comprising a first section and a second section;

an ideal pivot point located on the elongated member;

and wherein the elongated member is adapted to pivot about the ideal pivot point when the impulse is delivered such that an angle is formed between the first section and the second section.

49. An impact instrument for delivering an impulse to an object, comprising:

an impact surface adapted to contact the object;

an elongated member extending from the impact surface, the elongated member comprising an ideal pivot point;

a grasping member connected to the elongated member proximate the ideal pivot point, the grasping member having an end, the end being in spaced relation with a portion of the elongated member to form a cavity therebetween.

50. An impact instrument for delivering an impulse to an object, comprising:

an impact surface adapted to contact the object during use;

an elongated member coupled to the impact surface, the elongated member comprising a substantially longitudinal axis;

a grasping member coupled to the elongated member and being adapted to be grasped by at least one human hand, the grasping member being adapted to convert the grasping region of a human hand to a smaller effective grasping region.

51. The impact instrument of claim 50 wherein the grasping member is adapted to convert an extended pivot region of a human hand to a less extended pivot region.

52. The impact instrument of claim 50 wherein the grasping member is adapted to concentrate forces applied to the elongated member from the human hand during use such that these forces are applied to a smaller region of the elongated member than would otherwise occur if no force concentration took place.

53. The impact instrument of claim 50 wherein the grasping member is adapted to concentrate the forces during use such that these forces are concentrated from a larger region of the grasping member to a smaller region of the elongated member.

54. The impact instrument of claim 50 wherein the grasping member is adapted to lessen pressure applied to the human hand from the elongated member during use.

55. The impact instrument of claim 50 wherein the grasping member is adapted to lessen pressure applied to the human hand from the elongated member during use, and wherein the grasping member is adapted to lessen the pressure during use such that this pressure is dispersed from a smaller region of the elongated member to a larger region of the grasping member during use.

56. The impact instrument of claim 50 wherein the impact instrument has a center of percussion, and wherein the grasping member is adapted to be grasped during use such that the center of percussion substantially coincides with the impact surface during use.

57. The impact instrument of claim 50 wherein the grasping member is adapted to pivot with respect to the longitudinal axis of the elongated member during use.

58. The impact instrument of claim 50 wherein the grasping member comprises a sheath substantially surrounding at least a portion of the elongated member.

59. The impact instrument of claim 50 wherein the grasping member comprises a sheath substantially surrounding at least a portion of the elongated member, and wherein at least one cavity is formed between at least a portion of the sheath and the elongated member.

60. The impact instrument of claim 50 wherein the grasping member comprises a sheath substantially surrounding at least a portion of the elongated member, wherein a cavity is formed between at least a portion of the sheath and the elongated member, and further comprising compressible material disposed within the cavity.

61. The impact instrument of claim 50 wherein the grasping member comprises a sheath substantially surrounding at least a portion of the elongated member, and wherein the sheath is adapted to pivot with respect to the longitudinal axis of the elongated member during use.

62. The impact instrument of claim 50 wherein the grasping member is adapted to pivot in the region of the ideal pivot point with respect to the longitudinal axis of the elongated member during use.

63. The impact instrument of claim 50 wherein the grasping member comprises a sheath substantially surrounding at least a portion of the elongated member, and wherein the sheath is adapted to pivot in the region of the ideal pivot point with respect to the longitudinal axis of the elongated member during use.

64. The impact instrument of claim 50 wherein the elongated member comprises a first end substantially proximate the impact surface and a second end substantially distal from the impact surface, and wherein the impact instrument is adapted such that the smaller region of the elongated member, where forces are applied, is proximate the second end of the elongated member.

65. The impact instrument of claim 50 wherein the elongated member comprises a first end substantially proximate the impact surface and a second end substantially distal from the impact surface, and wherein the impact instrument is adapted such that the smaller region of the elongated member, where forces are applied, is closer to the second end of the elongated member than the center of the human hand during use.

66. The impact instrument of claim 50 wherein the elongated member comprises a first end substantially proximate the impact surface and a second end substantially distal from the impact surface, and wherein the impact instrument is adapted such that the smaller region of the elongated member, where forces are applied, is located such that more impulse transfer is applied to impact surface during use than would be applied to the impact surface during use if such smaller region was located at or about where the center of the human hand is located on the grasping member during use.

67. The impact instrument of claim 50 wherein the grasping material comprises a flexible material.

69. The impact instrument of claim 50 wherein the grasping material comprises an outer surface, and a cavity is between the outer surface and the elongated member, and wherein the outer surface is more rigid than material in the cavity.

70. The impact instrument of claim 50 wherein the grasping material comprises a flexible material adapted to allow the human hand to pivot in relation to the longitudinal axis during use.

71. The impact instrument of claim 50 wherein the grasping material comprises a flexible material adapted to allow the human hand to pivot in the region of the ideal pivot point, and in relation to the longitudinal axis, during use.

72. The impact instrument of claim 50 wherein the grasping material comprises a substantially rigid outer surface that is adapted to bend when an impulse is delivered by the impact instrument during use.

73. The impact instrument of claim 50 wherein the grasping material comprises a substantially rigid outer surface that is adapted to bend when an impulse is delivered by the impact instrument during use, wherein the outer surface of the grasping material is coupled to a substantially compressible inner surface.

74. The impact instrument of claim 50 wherein the grasping material comprises a substantially rigid outer surface that is adapted to bend when an impulse is delivered by the impact instrument during use, wherein the outer surface of the grasping material is coupled to a substantially compressible inner surface, and wherein the grasping material is adapted to allow the human hand to pivot in relation to the longitudinal axis when an impulse is delivered by the impact instrument during use.

75. The impact instrument of claim 50 wherein the grasping material comprises a substantially rigid outer surface that is adapted to bend when an impulse is delivered by the impact instrument during use, wherein the outer surface of the grasping material is coupled to a substantially compressible inner surface, and wherein the grasping material is adapted to allow the grasping member to pivot in the region of the ideal pivot point in relation to the longitudinal axis when an impulse is delivered by the impact instrument during use.

76. The impact instrument of claim 50 wherein the grasping material comprises a sheath comprising a substantially rigid outer surface that is adapted to bend when an impulse is delivered by the impact instrument during use, wherein the outer surface of the grasping material is coupled to a substantially compressible inner surface, and wherein the grasping material is adapted to allow the human hand to pivot in relation to the longitudinal axis when an impulse is delivered by the impact instrument during use.

77. The impact instrument of claim 50 wherein the grasping material comprises a sheath comprising a substantially rigid outer surface that is adapted to bend when an impulse is delivered by the impact instrument during use, wherein the outer surface of the grasping material is coupled to a substantially compressible inner surface, and wherein the grasping material is adapted to allow the human hand to pivot in relation to the longitudinal axis when an impulse is delivered by the impact instrument during use.

78. The impact instrument of claim 50 wherein the grasping member comprises an outer surface, and a cavity between the outer surface and the elongated member.

79. The impact instrument of claim 50, further comprising a cavity between the grasping material and the elongated material wherein the cavity is substantially perpendicular to a plane that defined by the swing of the instrument during use.

80. The impact instrument of claim 50, further comprising a cavity between the grasping material and the elongated material wherein the cavity is substantially parallel to a plane that defined by the swing of the instrument during use.

81. The impact instrument of claim 50 wherein the impact surface comprises a plane, and further comprising a cavity between the grasping material and the elongated material wherein the cavity is located in a plane that is substantially parallel to the plane of the impact surface, and further comprising a material more compressible than the grasping material in the cavity.

82. The impact instrument of claim 50 wherein the elongated member comprises a first end substantially proximate the impact surface, and a second end substantially distal from the impact surface, and further comprising a cavity located between the grasping member and the elongated member, the cavity being located such that material in or about the cavity absorbs at least a portion of post-impact rebound force during use.

83. The impact instrument of claim 50 wherein the elongated member comprises an ideal pivot point, a first end substantially proximate the impact surface, and a second end substantially distal from the impact surface, and further comprising a cavity located between the grasping member and the elongated member, at least a portion of the cavity being located between the ideal pivot point and the first end such that material in or about the cavity absorbs at least a portion of post-impact rebound force during use.

84. The impact instrument of claim 50 wherein the elongated member comprises an ideal pivot point, a first end substantially proximate the impact surface, and a second end substantially distal from the impact surface, and further comprising a first cavity located between the grasping member and the elongated member, at least a portion of the first cavity being located between the ideal pivot point and the first end such that material in or about the first cavity absorbs at least a portion of post-impact rebound force during use, and further comprising a second cavity located between the grasping member and the elongated member, at least a portion of the second cavity being located between the ideal pivot point and the second end such that material in or about the second cavity absorbs at least a portion of post-impact rebound force during use.

85. The impact instrument of claim 50 wherein the elongated member comprises at least one bend.

86. The impact instrument of claim 50 wherein the elongated member comprises at least one bend, and a bend in the elongated member is located proximate the ideal pivot point.

87. The impact instrument of claim 50 wherein the elongated member comprises at least one bend, and a bend in the elongated member is located in a plane defined by motion of the instrument during use.

88. The impact instrument of claim 50 wherein the elongated member comprises at least one bend, and further comprising a cavity between an outer surface of the grasping member and the elongated member.

89. The impact instrument of claim 50 wherein the elongated member comprises at least one bend, and further comprising a cavity between an outer surface of the grasping member and the elongated member.

90. An impact instrument for delivering an impulse to an object, comprising:

an impact surface adapted to contact the object during use;

an elongated member coupled to the impact surface, the elongated member comprising a substantially longitudinal axis;

a grasping member coupled to the elongated member and being adapted to be grasped by a human hand; and

wherein the impact instrument has a center of percussion, and wherein the grasping member is adapted to be grasped during use such that the center of percussion substantially coincides with the impact surface during use.

91. An impact instrument for delivering an impulse to an object, comprising:

an impact surface adapted to contact the object during use;

an elongated member extending from the impact surface, the elongated member comprising a first end substantially proximate the impact surface and a second end substantially distant from the impact surface;

a grasping member coupled to the elongated member and being adapted to be grasped by a human hand during use, the grasping member being adapted to disperse forces applied to the human hand from the elongated member during use.

92. The impact instrument of claim 91 wherein the grasping member is adapted to disperse these forces during use such that these forces are applied to a larger region of the human hand than would otherwise occur if no force dispersion took place.

93. The impact instrument of claim 91 wherein the grasping member is adapted to disperse the forces during use such that these forces are dispersed from a smaller region of the elongated member to a larger region of the grasping member during use.

94. An impact instrument for delivering an impulse to an object, comprising:

an impact surface adapted to contact the object;

an elongated member coupled to the impact surface, the elongated member comprising a longitudinal axis;

a grasping member adapted to be grasped by a human hand during use, the grasping member being coupled to the elongated member, and wherein the grasping member is adapted to pivot with respect to the longitudinal axis of the elongated member during use.

95. The impact instrument of claim 94, further comprising a cavity between an outer surface of the grasping member and the elongated member, the cavity being positioned to absorb at least a portion of post impact rebound forces.

96. The impact instrument of claim 94 wherein the grasping member is adapted to pivot in the region of the ideal pivot point with respect to the longitudinal axis of the elongated member during use.

97. The hammering device of claim 1 wherein the hammering device is an ax weighing between about 10 and about 15 pounds.

98. The hammering device of claim 1 wherein the hammering device has a mass of greater than about 2.5 pounds.